II. IN THE CLAIMS

1. (currently amended) A MEM device comprising:

a movable micromachined structure;

a diamond material disposed along a surface of said micromachined structure, said diamond material defining an abrasion resistive contact area.

2. (original) The invention of claim 1 wherein said MEM device operates as a switch.

3. (original) The invention of claim 1 wherein said MEM device operates as a relay.

4. (original) The invention of claim 1 wherein said movable micromachined structure comprises a lever mechanism.

5. (currently amended) The invention of claim ~~1~~ 4 wherein said lever mechanism comprises a rib enforced lever mechanism.

6. (original) The invention of claim 1 further comprising a micromachined enclosure, said enclosure enclosing said movable micromachined structure.

7. (original) The invention of claim 6 wherein said enclosure defines an aperture.

8. (original) The invention of claim 6 wherein said enclosure defines an integral enclosure.

9. (cancelled without prejudice) The invention of claim 1 wherein said movable micromachined structure comprises a lever mechanism.

10. (original) The invention of claim 1 wherein said diamond material is disposed along a surface of said movable micromachined structure wherein said surface is subject to abrasion.

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11. (original) A MEM device comprising:

a movable mechanism residing adjacent a substrate;

an abrasion resistant material localized on a first portion of said movable mechanism; and

a first contact region used to attract said movable mechanism towards said substrate such that said abrasion resistant material becomes operationally coupled to a second contact region.

12. (original) The invention of claim 11 wherein said abrasion resistant material comprises a diamond material.

13. (original) The invention of claim 11 wherein said abrasion resistant material is disposed along said first portion of said movable mechanism, said first portion subject to abrasion as the abrasion resistant material becomes operationally coupled to said second contact region.

14. (original) The invention of claim 11 wherein said first contact region is localized on said substrate.

15. (original) The invention of claim 11 wherein said second contact region comprises an abrasion resistive material.

16. (original) The invention of claim 15 wherein said second contact region and said abrasion resistive material localized on a portion of said movable mechanism comprise a similar material.

17. (original) The invention of claim 11 wherein said second contact region comprises a first RF contact portion and a second RF contact portion such that when said movable mechanism is attracted towards said substrate, the abrasion resistive material shorts the first RF contact portion and second RF contact portion.

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18. (original) The invention of claim 11 further comprising a third contact region, said third contact region operable to pull back said movable mechanism from being attracted to said second contact region.

19. (original) The invention of claim 11 wherein said movable mechanism further comprises a first anchor portion and a second anchor portion, said first and said second anchor portion integral to a top surface of said substrate.

20. (original) The invention of claim 11 wherein said movable mechanism comprises a second surface, said second surface defining a rib.

21. (original) The invention of claim 20 wherein said second surface comprises a metallic layer.

22. (original) The invention of claim 21 wherein said metallic layer is processed using a planarization step.

23. (original) The invention of claim 22 wherein said planarization step comprises Chemical Mechanical Planarization.

24. (original) The invention of claim 22 further comprising an integral enclosure that encloses said MEM device.

25. (original) The invention of claim 24 wherein said integral enclosure further comprises an electrical shield.

26. (original) The invention of claim 24 wherein said integral enclosure further comprises a pull-back contact.

27. (original) The invention of claim 11 wherein said second contact region resides on said substrate.

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28. (original) The invention of claim 11 further comprising a dielectric layer deposited along said surface of said substrate such that when said first contact region is energized, said lever mechanism is not physically coupled to said third contact region.

29. (original) A MEM switching device comprising:

a rib enforced lever mechanism residing along a surface of a substrate, said lever mechanism having at least one anchor lever mechanism portion extending from said surface;

a first contact region deposited on said substrate, said first contact energized for attracting said lever mechanism towards said substrate such that said lever mechanism becomes electrically coupled to a third contact region; and

a second contact region that pulls back said lever mechanism from being electrically coupled to said third contact region.

30. (original) The invention of claim 29 wherein said rib enforced lever mechansim comprises a rib that is integral to said lever mechanism.

31. (original) The invention of claim 30 wherein said rib comprises a conductive layer.

32. (original) The invention of claim 30 wherein said conductive layer comprises Copper.

33. (original) The invention of claim 31 wherein said conductive layer comprises Diamond.

34. (original) The invention of claim 31 wherein said conductive layer comprises a conductive composition.

35. (original) The invention of claim 29 wherein said switching device comprises a

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planarized surface.

36. (original) The invention of claim 33 wherein said planarized surface is planarized by a Chemical Mechanical Planarization process.

37. (original) The invention of claim 27 further comprising an integral enclosure, said integral enclosure used to enclose said MEM device.

38. (original) The invention of claim 29 wherein said third contact region comprises a first and a second micro-strip line.

39. (original) A micro-machined structure for enclosing at least one MEM device, said structure comprising:

a structure extending from a substrate and at least partially enclosing said at least one MEM device; and

a cover structure residing on a portion of said substrate structure,

wherein said micro-machined structure defines at least one tortuous path.

40. (original) The invention of claim 39 wherein said tortuous path provides for a removal of material residing along said surface.

41. (original) The invention of claim 39 further comprising a contact region, said contact region provided on said cover substrate structure, said contact region acting as a pull-back contact for a MEM device residing on said substrate.

42. (original) The invention of claim 41 wherein said contact region comprises a shielding member, said shielding member preventing passage of electromagnetic radiation.

43. (original) The invention of claim 39 further comprising a sealing member, said sealing member engaging said tortuous path such that said sealing member seals said enclosure.

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44. (original) The invention of claim 43 further comprising a gaseous material provided in said sealed enclosure.

45. (original) The invention of claim 44 wherein said gaseous material comprises an inert gas.

46. (original) The inventon of claim 44 wherein said gaseous material comprises an arc preventing gaseous material.

47. (original) The invention of claim 43 wherein said sealing member seals said enclosure in a vacuum sealed state.

48. (original) The invention of claim 39 wherein said tortuous path defines a labyrinth path.

49. (original) The invention of claim 39 further comprising a second MEM device, said second MEM device enclosed by said micro-machined structure.

50. (original) The invention of claim 39 wherein said micro-machined apparatus is an integral micro-machined stucture.

51. (original) The invention of claim 39 wherein said micro-machined structure for enclosing at least one MEM device comprises diamond.

52. (original) A method of fabricating a micro-machined apparatus, said method comprising the steps of :

providing a substrate;

fabricating a substrate structure, said substrate structure extending from said substrate;

and

fabricating a cover substrate structure residing on a portion of said substrate structure,

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said cover structure defining at least one tortuous channel.

53. (original) The invention of claim 52 wherein said substrate structure comprises a vertical substrate structure.

54. (original) The invention of claim 52 further comprising the step of enclosing at least one MEM device in said micro-machined apparatus.

55. (original) The invention of claim 52 further comprising the step of enclosing a plurality of MEM devices in said micro-machined apparatus.

56. (original) The invention of claim 52 further comprising the step of removing sacrificial material internal to said enclosure through said tortuous channel.

57. (original) The invention of claim 52 wherein said tortuous channel defines a labyrinth path.

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